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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/503,258	02/14/2000	Jae-Yoel Kim	678-454 (P9157)	6301

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Paul J. Farrell
Dilworth & Barrese
333 Earle Ovington Blvd.
Uniondale, NY 11553

EXAMINER

VOLPER, THOMAS E

ART UNIT	PAPER NUMBER
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2697

DATE MAILED: 07/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

B

Office Action Summary

Application No.

09/503,258

Applicant(s)

KIM ET AL.

Examiner

Thomas Volper

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B

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 11, 21 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 11 recites the limitation "the primary data user" in line 2. There is insufficient antecedent basis for this limitation in the claim.
5. Claims 21 and 27 recites the limitation "the supplemental channel for transmitting the packet data" in lines 16-17 and 10-11, respectively. The claims also recite "a supplemental channel for transmitting the circuit data" in lines 11-12 and 4-5, respectively. It is unclear whether Applicants are claiming that the same supplemental channel is transmitting the circuit data and the packet data, or if there is a second supplemental channel. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-4, 6-8, 11-13, 17, 18, 25 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Gilhousen (US 5,751,761).

Regarding claims 1, 2, 7, 11, 12, 17 and 25, Gilhousen discloses a plurality of channel transmitting circuits (see Figure 5) in a system that assigns orthogonal Walsh codes of varying length on the basis of channel data rates. The system also includes a cell controller that performs the function of the Walsh pool generator of the present invention. The cell controller maintains a list of codes assigned to particular user channels. It is inherent that the system contains a memory, since the controller maintains a list. The controller is able to determine which codes are recursively related to the assigned codes, thus unavailable for new assignments (col. 11, line 63 – col. 12, line 10). The codes recursively related to the assigned codes are representative of orthogonal code numbers which cannot maintain an orthogonality. Due to the tree structure of variable length Walsh codes, which are related by equation (1), assignment of a shorter length code assigned to a higher data rate channel precludes the use of certain longer length codes to lower data rate channels (col. lines 29-62; see also Table I). The higher data rate channel represents a circuit data user, while a lower data rate channel represents a packet data user. The controller identifies an available code of suitable length for a channel of a particular data rate,

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wherein the code, "0", corresponds to the maximum data rate (see Table I), and assigns the code to the requesting channel (col. 12, lines 20-40). The data rate select signals from the control processor in Figure 5 demonstrate multiplying the channel outputs by control signals.

Regarding claims 3, 8, 13, 18 and 26, Table I in the invention of Gilhousen illustrates codes that have lengths that are multiples of the code, "0", which corresponds to the maximum data rate. In this particular embodiment, the full length is 16 chips.

Regarding claim 4, Gilhousen discloses determining, based on a BUSY list of codes, a code that is available for a requesting channel that has a length corresponding to the data rate of that channel (col. 12, lines 20-40).

Regarding claim 6, Gilhousen discloses a set of Walsh codes (Table I) that may be used to select a code to spread data provided that the selected code is not recursively related to any currently assigned code (col. 12, lines 20-40). The code, "0", corresponds to the maximum data rate, since this is the shortest code, i.e. root node.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 5, 9, 10, 14-16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilhousen (US 5,751,761) as applied to claims 1-4, 6-8, 11-13, 17, 18, 25 and 26 above, and further in view of Kumar et al. (US 6,418,148).

Regarding claims 5, 9, 10, 14-16, 19 and 20, Gilhousen discloses all of the limitations, except for allocating codes based on priority of packet data users. Kumar discloses assigning resources according to priority, wherein the resources comprise CDMA spreading codes (col. 7, lines 38-60). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the priority assignment of Kumar in assigning the codes in the invention of Gilhousen. One of ordinary skill in the art would have been motivated to do this to prevent one user from hogging system resources.

10. Claims 21-24 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilhousen (US 5,751,761) in view of Kumar et al. (US 6,418,148) and Tiedemann, Jr. et al (US 6,335,922).

Regarding claims 21 and 27, Gilhousen discloses determining code numbers which are unavailable at a data rate lower than a maximum data rate, generating code numbers which cannot maintain an orthogonality when the maximum data rate is used, and storing the non-orthogonal numbers (col. 11, line 63 – col. 12, line 40). Gilhousen fails to expressly disclose allocating the code corresponding to the maximum rate to a supplemental channel for transmitting the circuit data, and allocating a code number to a supplemental channel for the packet data. Kumar discloses using supplemental channels in a CDMA system for transmitting variable rate data (see Abstract). Kumar also discloses assigning resources according to priority, wherein the resources comprise CDMA spreading codes (col. 7, lines 38-60). Tiedemann discloses that when allocating resources in a CDMA system, priority should be given to voice data over any transmission of data traffic (col. 4, lines 18-35). “Voice data” represents the

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circuit data of the present invention, while "data traffic" represents the packet data of the present invention. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use supplemental channels in the CDMA system of Gilhousen and to give voice data priority to the code representing the maximum rate. One of ordinary skill in the art would have been motivated to use supplemental channels to provide efficient utilization of system resources. One of ordinary skill in the art would have been motivated to give voice, or circuit data, priority to the code corresponding to the maximum rate because voice data is delay sensitive.

Regarding claim 22, Table I in the invention of Gilhousen illustrates codes that have lengths that are multiples of the code, "0", which corresponds to the maximum data rate. In this particular embodiment, the full length is 16 chips.

Regarding claims 23, 24, 28 and 29, Gilhousen discloses determining, based on a BUSY list of codes, a code that is available for a requesting channel that has a length corresponding to the data rate of that channel (col. 12, lines 20-40).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Cheng (US 6,526,065) Code Management System and Method for CDMA

Communication Networks

- Magnusson et al. (US 6,163,524) Code Allocation in CDMA

- Shanbhag (US 6,314,107) Method and Apparatus for Assigning Spreading Codes

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- Honkasalo (US 6,317,413) Method and apparatus for Assigning Variable Length Walsh Codes in a Spread Spectrum System

12. Any inquiry concerning this communication, or earlier communications from the examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and fax number is 703-746-9467. The examiner can normally be reached between 8:30am and 6:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached at 703-308-6602. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

tev

July 24, 2003

A handwritten signature in black ink, followed by the date 7/28/07 written in a similar cursive style.